APPENDIX C
ADDITIONAL BIOLOGICAL RESOURCES INFORMATION

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Appendix C: Additional Biological Resources Information

Biological Regulatory Setting

Many biological resources in California are protected and impacts to these resources are regulated by a variety of laws and policies. Prior to implementation, proposed projects need to demonstrate compliance with these regulations. Key regulatory issues that apply to the General Plan are discussed below.

The primary laws and regulations that protect biological resources and are applicable to implementation of the General Plan are listed and described below.

- Federal Endangered Species Act (ESA)
- Clean Water Act (CWA)
- California Endangered Species Act (CESA)
- California Fish and Game Code

Federal Regulations

Federal Endangered Species Act. Pursuant to the federal Endangered Species Act (ESA), the U.S. Fish and Wildlife Service (USFWS) has regulatory authority over projects that may affect the continued existence of a federally listed threatened or endangered species.

Section 9 of the ESA prohibits the "take" of a federally listed species, where "take" is defined, in part, as killing, harming, or harassment of such species. Under federal regulations, take is further defined to include habitat modification or degradation where it actually results in death or injury to wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering.

Section 7 of the ESA outlines procedures for federal interagency cooperation and participation in the conservation and recovery of federally listed species and designated critical habitat. Section 7(a)(2) requires federal agencies to consult with other federal agencies with regulatory authority to ensure that they are not undertaking, funding, permitting, or authorizing actions likely to jeopardize the continued existence of listed species or to destroy or adversely modify designated critical habitat. Critical habitat is any specific area that has the physical and biological features essential to the conservation of a listed species, and that may require special management considerations or protection.

For projects where a federal nexus is not involved and take of a listed species may occur, the project proponent may seek to obtain an incidental take permit under Section 10(a) of ESA. Section 10(a) of the ESA allows the USFWS to permit the incidental take of a listed species if such take is accompanied by a Habitat Conservation Plan (HCP) that includes components to minimize and mitigate impacts associated with the take.

Clean Water Act. The U.S. Army Corps of Engineers (USACE) regulates the placement of fill into waters of the United States under Section 404 of the Clean Water Act (CWA). Waters of the United States include lakes, rivers, streams, and their tributaries and wetlands. Wetlands are defined under Section 404 as areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically

adapted to life in saturated soil conditions. Activities that require a permit under Section 404 include, but are not limited to, placing fill or riprap, grading, mechanized land clearing, and dredging. Any activity that results in the deposit of dredged or fill material within the "ordinary high-water mark" of waters of the United States usually requires a permit from USACE, even if the area is dry at the time the activity takes place. A variety of processes are available for obtaining Section 404 authorization from USACE, ranging from the Nationwide Permit process to the Individual Permit process. Under Section 401 of the CWA, an applicant for a Section 404 permit must obtain a certificate from the appropriate state agency stating that the fill is consistent with the state's water quality standards and criteria. In California, the authority to grant water quality certification is delegated by the state Water Resources Control Board (SWRCB) to the nine regional boards.

State Regulations

California Endangered Species Act. Pursuant to the California Endangered Species Act (CESA) and Section 2081 of the Fish and Game Code, a permit from the DFG is required for projects that could result in the take of a state listed threatened or endangered species. Under CESA, "take" is defined as an activity that would directly or indirectly kill an individual of a species, but the definition does not include "harm" or "harass," as the federal act does. As a result, the threshold for take under CESA is higher than that under ESA.

Section 1602 of the California Fish and Game Code. All diversions, obstructions, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake in California that supports wildlife resources is subject to regulation by DFG, pursuant to Section 1602 of the California Fish and Game Code. Section 1602 states that it is unlawful for any person, governmental agency (state or local), or any public utility to substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake, or deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, without first notifying the DFG of such activity. The regulatory definition of a stream is a body of water that flows at least periodically or intermittently through a bed or channel having banks and supports wildlife, fish or other aquatic life. This includes watercourses having a surface or subsurface flow that supports or has supported riparian vegetation. The DFG's jurisdiction within altered or artificial waterways is based on the value of those waterways to fish and wildlife. A DFG Streambed Alteration Agreement must be obtained for any project that would result in an impact on a river, lake, or stream.

Section 3503.5 of the California Fish and Game Code. Section 3503.5 of the California Fish and Game Code states that it is "unlawful to take, possess, or destroy any birds-of-prey in the orders Falconiformes or Strigiformes." These orders include hawks, owls, eagles, and falcons. The loss of an active nest is considered by the DFG as a violation of this code. This statute does not provide for the issuance of any type of incidental take permit.

Fully Protected Species under the Fish and Game Code. Protection of fully protected species is described in four sections of the Fish and Game Code that list 37 fully protected species (Fish and Game Code Sections 3511, 4700, 5050, and 5515). These statutes prohibit take or possession at any time of fully protected species. The DFG is unable to authorize incidental take of fully protected species when activities are proposed in areas inhabited by those species. The DFG has informed non-federal agencies and private parties that they must avoid take of any fully protected species when carrying out projects.

Sensitive Biological Resources

Sensitive biological resources include plants and animals that have been afforded special recognition by federal, state, or local resource agencies and organizations. Also included are habitats that are of relatively limited distribution or are of particular value to wildlife.

Special-status species are defined as plants and animals in the following categories:

- Species listed or proposed for listing as threatened or endangered under the ESA or CESA;
- Species considered as candidates for listing as threatened or endangered under the ESA or CESA;
- Wildlife species identified by the DFG as Species of Special Concern (an administrative designation used to try to prevent these animals from becoming threatened or endangered by addressing issues of concern early enough to secure long-term viability of the species);
- Animals fully protected under the California Fish and Game Code; and
- Plants on CNPS List 1B (plants classified as rare, threatened, or endangered in California and elsewhere) or List 2 (plants classified as rare, threatened, or endangered in California, but are more common elsewhere).

Sensitive natural communities are defined as those with particularly high ecological values or functions, limited distribution, or are of concern otherwise to local, state, and/or federal resource agencies. Sensitive habitats include those that are of special concern to the DFG (e.g., those identified as having high priority for inventory by the CNDDB), or that are afforded specific consideration through the CEQA, Section 1602 of the California Fish and Game Code, and/or Section 404 of the CWA.

Summary of 2007 Cowell Ranch Amphibian Surveys

June, 2007

Introduction

Surveys for pond-breeding amphibians within the Cowell Ranch/John Marsh property were conducted in order to obtain current information on the status of these habitat types in the park and sensitive species present. Surveys in 1993, conducted by LSA Associates, documented the presence of a number or rare species in the vernal pools and stock ponds of Cowell Ranch in a report titled "Biological Resources, Cowell Ranch, Contra Costa County." In the 13 years since those surveys were conducted, a portion of the former Cowell Ranch has been developed, and a much larger portion has been turned into the state park, currently called the Cowell Ranch/John Marsh property.

Methods

Surveys for pond-breeding amphibians were conducted on May 3-4, 2007. Survey sites included ponds, pools, and other aquatic habitat identified in Figure 4 of the 1993 LSA report. USGS quadrangle maps were also used for reference. Surveys consisted of first slowly walking the shoreline visually searching for animals. Then dipnets were used to sample standing water areas. We recorded all species observed and their life stages. Cumulative visual and dipnet sampling time for all surveyors was recorded. Surveys were

conducted by David Cook, Cyndy Shafer, Jeff Alvarez, and Christina Freeman, and complied with U. S. Fish and Wildlife Service and California Department of Fish and Game permits. We recorded habitat features and dam conditions at each site. Water depths during our field visit were measured with a measuring stick, maximum depth to spillway was visually estimated, and other dimensions were measured from walking pace estimates. We recorded the dominant and subdominant vegetative cover of the pond surface and banks. Photographs were taken to document pond habitat and conditions, as well as species observed.

Results

Pond Habitats and Dam Conditions

16 vernal pools were visited but already dry. 21 stock ponds were visited, of which 11 were dry, and 10 still had water. Additionally, pools along Marsh Creek in the vicinity of the John Marsh home, and pools along the creek running through Briones Valley, were surveyed. In total, about 80% of the water bodies present in the park were visited during this survey effort. A small number of sites were not visited due to time limitations.

Habitats at the various pools and ponds ranged from semi-permanent waters with dense cattails (see Figure 1) to ponds with no wetland vegetation that were dry during our visit. All of the stock ponds surveyed were created by the construction of an earthen dam along an intermittent creek, or large swale.

Figure 1. Stock pond 38, where red-legged frog tadpoles were captured.

Species Diversity/Rare Species

Cowell Ranch supports at least two federally threatened amphibian species. Despite the fact that 2007 was a poor year for amphibian breeding, likely due to sparse rainfall patterns early in the year and

relatively dry conditions, we still documented breeding for both California red-legged frog (*Rana aurora draytonii*) and California tiger salamander (*Ambystoma californiense*). Red-legged frog tadpoles were captured in one pond (stock pond 38 in LSA report), and tiger salamander larvae were captured in two ponds (stock ponds 6 and 15 in LSA report – see Figure 2). All three of these ponds are in the southern portion of the park. Pacific tree frog (*Hyla regilla*), and western toad (*Bufo boreas*) larvae were found at a number of sites.

A large number of bullfrog tadpoles and one juvenile bullfrog were captured in pools along Marsh Creek. Bullfrogs were not found in any of the other sites surveyed.

Discussion

2007 was a bad year for amphibian breeding throughout the Bay Area. It's likely that in a year with normal rainfall, red-legged frogs (CRLF) and tiger salamanders (CTS) would be breeding at a number of additional sites in the park, consistent with what LSA documented in 1993. 2007 was a dry year, and amphibian breeding was likely affected by long dry periods early in the rainy season. Surveys conducted at Mt. Diablo State Park in 2006 documented CTS and CRLF breeding at sites that were dry during 2007 surveys. Following this pattern of poor amphibian breeding in 2007, CTS surveys on the Santa Rosa Plain in Sonoma County documented the lowest breeding in eight years of surveys, and surveys at Ledson Marsh in Annadel State Park in Sonoma County documented the lowest CRLF breeding in 13 years (Dave Cook, pers. com.). Therefore, the LSA 1993 data is probably more representative of the distribution of breeding for these species at Cowell Ranch than these 2007 surveys showed. The LSA surveys documented CTS larvae in 25 separate waterbodies in what is now the state park. Cowell Ranch has a high number of sites that provide suitable breeding habitat for both CTS and CRLF.

Figure 2. California tiger salamander larvae captured in stock pond 15.

Additional Species Reports and Surveys

Existing documentation from previous biological surveys on or adjacent to the property were reviewed and cited in this report by EDAW biologists and are summarized below:

- Survey for *Hygrotus curvipes* (Leech) at Cowell Ranch (Mead 1993)
- Biological Resources, Cowell Ranch, Contra Costa County (LSA Associates, Inc. 1993)
- Supplemental Rare Plant Survey, Cowell Ranch (LSA Associates, Inc. 1994)
- Status of Rare, Threatened and Endangered Vascular Plants in Alameda and Contra Costa Counties (Olson 1994)
- Draft Habitat Management Plan, Cowell Ranch (LSA Associates, Inc. 1996)
- Distribution of the San Joaquin Kit Fox in the North Part of its Range (H.T. Harvey and Associates 1997)
- Vernal Pool Crustaceans (Cowell Ranch) (Entomological Consulting Services, Ltd. 1998)
- Biological Assessment for the Vineyards at Marsh Creek Project (Sycamore Associates LLC 2003)
- Botanical Assessment for the Vineyards at Marsh Creek Project (Sycamore Associates LLC 2003)
- Burrowing Owl Habitat Assessment and Winter Focused Survey for the Vineyards at Marsh Creek Project (Sycamore Associates LLC 2003)
- Burrowing Owl Nesting Season Focused Survey for the Vineyards at Marsh Creek Project (Sycamore Associates LLC 2003)
- California Tiger Salamander Focused Survey for the Vineyards at Marsh Creek Project (Sycamore Associates LLC 2003)
- Site Assessment for the California Red-Legged Frog, the Vineyards at Marsh Creek Project (Sycamore Associates LLC 2003)
- California Red-Legged Frog Focused Survey for the Vineyards at Marsh Creek Project (Sycamore Associates LLC 2003)
- Early Evaluation for the San Joaquin Kit Fox for the Vineyards at Marsh Creek Project (Sycamore Associates LLC 2003)

Survey for Hygrotus curvipes (Leech) at Cowell Ranch

LSA Associates, Inc. conducted an aquatic invertebrate survey within stock ponds and intermittent drainages on the Cowell Ranch property in July 1993. This included lands outside of the current Park boundary. The study focused on identification of two types of beetles, *Hygrotus curvipes* and *H. pedalis*. Survey results indicate that the majority of the *Hygrotus* beetles present at the site were *H. curvipes*, which were found most abundantly along an intermittent stream that runs along Briones Valley and drains southeast into Marsh Creek Reservoir. The study also found that both species of beetle breed in the area.

Biological Resources, Cowell Ranch

LSA Associates, Inc. also conducted a biological survey of the Cowell Ranch property in 1993 to determine if any sensitive plant or animal species were present. The survey indicates that 12 special-status wildlife species were observed in the study area. Four of these species (California linderiella, vernal pool

fairy shrimp, curve-footed hygrotus diving beetle, and California tiger salamander) are dependent on seasonally ponded water. Two species were found in permanent or intermittent water bodies. California red-legged frogs were found in a spring-fed stockpond and western pond turtle were found in Marsh Creek. The remaining six species are grassland-associated species and include: northern harrier, prairie falcon, burrowing owl, loggerhead shrike, California horned lark, and San Joaquin pocket mouse. California tiger salamanders also use the grassland for upland retreat sites. Suitable habitat for San Joaquin kit fox occurs throughout the grassland and oak savannah portions of the Park.

Supplemental Rare Plant Survey

The Botanical Research Group and LSA Associates, Inc. conducted supplemental rare plant surveys on the Cowell Ranch property in the fall of 1993 and 1994. The surveys focused on four species of *Atriplex* (crownscale [*A. coronata*], San Joaquin spearscale [*A. joaquiniana*], heartscale [*A. cordulata*] and brittlescale [*A. depressa*]) and big tarplant [*Blepharizonia plumose*]). All but heartscale and brittlescale were observed during the survey; it was noted that in previous surveys, a small population of crownscale was misidentified as heartscale. The locations of these special-status plant species were mapped by LSA Associates, Inc.

Status of Rare, Threatened and Endangered Vascular Plants in Alameda and Contra Costa Counties

The *Status of Rare, Threatened and Endangered Vascular Plants in Alameda and Contra Costa Counties* (Olson 1994) summarizes current information on the status of 105 rare plant species that occur (or have occurred) in the East Bay. The report identifies the names of the plant, their status (most of the plants are considered rare plants by CNPS), habitat codes (community/communities in which the species are known to occur), geographic locations of known occurrences, and the types of occurrences.

Distribution of the San Joaquin Kit Fox in the North Part of its Range

The *Distribution of the San Joaquin Kit Fox in the North Part of its Range* (H.T. Harvey and Associates 1997) summarizes the records of occurrence of kit fox and the results of kit fox surveys in Alameda, Contra Costa and San Joaquin Counties. This information is compiled on maps that identify the extent of its occurrence to determine changes in the kit fox's geographic range over time. Based on the assessment, analysis of confirmed sightings fails to detect any significant shifts in the kit fox's range over time. The current geographic range of the kit fox extends north to Marsh Creek Reservoir and as far west as Round Valley in Contra Costa County and Vasco Road in Alameda County. The assessment recommends that management decisions regarding locations to conduct surveys and to mitigate impacts on the San Joaquin kit fox should be based, in part, on maps that are consistent with historical data, recent reliable occurrence data and biologically supportable assumptions. In addition, the assessment indicates that programs based solely on protecting large expanses of grasslands (particularly grasslands outside the historic range) will do little to aid the recovery of the kit fox in this region.

Vernal Pool Crustaceans

Entomological Consulting Services, Ltd. conducted a second wet-season survey of special-status, vernal pool-inhabiting crustaceans on the Cowell Ranch property in the winter and spring of 1997-1998 wherever standing water was observed. No life stages of the longhorn fairy shrimp (*Branchinecta longiantenna*), vernal pool tadpole shrimp, or conservancy fairy shrimp were observed during the survey.

Juvenile and adult life stages of the vernal pool fairy shrimp (*Branchinecta lynchi*) were observed in several seasonally-ponded wetlands; California linderiella (*Linderiella occidentalis*, a fairy shrimp species) was also found in a few wetlands.

Biological Assessment for The Vineyards at Marsh Creek Project

Sycamore Associates LLC conducted a reconnaissance-level biological assessment at the Vineyards project site in 2002, which is located northeast of the Park property. The surveys were intended as an initial evaluation of on-site habitat types and an assessment of the potential for occurrence of special-status plant and wildlife species. Suitable or marginally suitable habitat is present on site for 32 special-status plant species, which have a low to moderate potential to occur within the project area. Based on the findings of the assessment, several special-status wildlife species have been detected and have the potential to occur. Additional surveys and/or habitat evaluations are recommended or are in progress.

Botanical Assessment for The Vineyards at Marsh Creek Project

Sycamore Associates LLC also conducted a botanical assessment of the Vineyards in 2003. The assessment included a review of special-status plants in Contra Costa County and focused rare plant surveys. The report concludes that of the 47 special-status plant species that had the potential to occur within the region, no federally or state listed endangered or threatened plant species were detected within the project area. However, four CNPS listed special-status plant species were detected, including the San Joaquin spearscale (*Atriplex joaquiniana*), crownscale (*Atriplex coronata*), hog-wallow starfish (*Hesperevax caulescens*), and stinkbells (*Fritillaria agrestis*). Seventeen additional plant taxa representing regionally uncommon botanical resources were detected on site. The study area also supports four sensitive vegetation communities, including alkali meadow, freshwater marsh, seasonal wetlands, and Great Valley riparian forest.

Site Assessment for the California Red-Legged Frog, The Vineyards at Marsh Creek Project

Sycamore Associates LLC conducted a site assessment of the Vineyards in 2002 for red-legged frogs. The report concludes that potential California red-legged frog breeding habitat is present on the site within some of the stock ponds and that the remainder of the site provides potential dispersal and refugia habitat for the California red-legged frog. Suitable breeding, dispersal, and refugia habitats also surround much of the project site. Due to the moderate potential for California red-legged frog to occur on site, protocol-level, surveys were recommended.

Burrowing Owl Habitat Assessment and Winter Focused Survey for The Vineyards at Marsh Creek Project

Sycamore Associates LLC also conducted a habitat assessment as well as winter surveys for burrowing owl at the Vineyards project site in 2002 and 2003. Burrowing owl signs were detected at 22 burrows within the project area and 9 burrowing owls were observed during the surveys. Because occupied habitat was detected, measures to avoid, minimize or mitigate impacts to this species were provided.

Burrowing Owl Nesting Season Focused Survey for The Vineyards at Marsh Creek Project

Sycamore Associates LLC conducted a focused nesting season survey for burrowing owl at the Vineyards project site in 2003 as a follow up to previous studies and surveys. Five burrowing owls were observed

during the nesting season surveys. Because occupied habitat was detected, measures to avoid, minimize or mitigate impacts to this species were provided.

California Tiger Salamander Focused Survey for The Vineyards at Marsh Creek Project

Sycamore Associates LLC conducted protocol-level nocturnal and aquatic surveys for the California tiger salamander (*Ambystoma californiense*) at the Vineyards project site in 2002. Survey results indicate that six California tiger salamander adults were present and three California tiger salamander larvae were sighted in the project site. Due to the presence of larvae, the site is used by the California tiger salamander for breeding.

California Red-Legged Frog Focused Survey for The Vineyards at Marsh Creek Project

Sycamore Associates LLC conducted protocol-level focused surveys for the California red-legged frog (*Rana aurora draytonii*) at the Vineyards project site in 2002 based on the recommendations of an earlier Site Assessment. No California red-legged frog were observed during focused surveys on site or within off-site areas. However, preconstruction surveys for California red-legged frog were recommended.

Early Evaluation for the San Joaquin Kit Fox for The Vineyards at Marsh Creek Project

Sycamore Associates LLC conducted a formal early evaluation for the San Joaquin kit fox at the Vineyards project site in 2002 and 2003. This evaluation assesses the suitability of habitat and the likelihood for kit fox to occur in the area based on the vegetative communities present and distribution of nearby occurrence records, and is not based on focused surveys. The report discusses habitat quality for the kit fox, the potential for its occurrence at and around the project area, and the potential for significant impacts from implementation of the Vineyards project. The report concludes that land uses within the study area support suitable foraging habitat, and some denning and potential movement opportunities. However, no kit fox sign or kit fox were detected within the study area and as such, kit fox is considered unlikely to be residing in the area.